Societies and Academies.

LONDON.

The Royal Society, November 10.—Prof. C. S. Sherrington, president, in the chair.—A. J. **Wilmott**: Experimental researches on vegetable assimilation and respiration. XIV.—Assimilation by submerged water plants in dilute solutions of bicarbonates and of acids: an improved bubble-counting technique. The increase of "bubble rate" of carbon dioxide liberated from the cut stem of a water-plant when free acid is added to the water covering the stem is due to the effect of the acid upon carbonates present. No increase is found when soft water is used. In "bubble rate" experiments, solutions of carbonic acid and of sodium bicarbonate of known strength behave similarly.—E. G. **Young**: The coagulation of protein by sunlight.—E. G. **Young**: The optical rotatory power of crystalline ovalbumin and serum albumin.—A. R. **Ling** and D. R. **Nanji**: The longevity of certain species of yeast. Yeast cultures prepared in 1887 by the late Prof. Hansen were found to be still living. The form in which they have retained their vitality is not determined. *A. apiculatus* hibernates in the soil; since the yeast with which Hansen worked does not form endospores it may have been preserved as resting cells.—F. **Kidd**, C. **West**, and G. E. **Briggs**: A quantitative analysis of the growth of *Helianthus annuus*. Part I.—The respiration of the plant and of its parts throughout the life-cycle. The respiration of the plant was investigated (1) for calculating loss in dry-weight, due to respiration under field conditions, and, with the increase in dry-weight due chiefly to assimilation, to construct a "balance sheet" for the plant; (2) to determine effect of age of the plant (internal factor) upon its respiration, which was measured under standard conditions at weekly intervals throughout the life cycle. The amount of carbon dioxide (mgs.) per gm. dry-weight per hour produced by the respiring tissue under standard conditions is called the "respiratory index," which is a close measure of the "effective amount of respiring cell-matter." The relation between respiration and temperature (0–25° C.) was also determined. The "respiratory index" of the whole plant and of individual organs decreases throughout the life-cycle, in the case of the whole plant from 3 to about 0·3. Its fall follows closely the fall in "relative growth rate."—G. S. **Currey**: The colouring matter of red roses.

Royal Microscopical Society, October 19.—Prof. John Eyre in the chair.—Dr. L. T. **Hogben**: Preliminary account of the spermatogenesis of Sphenodon. The material of this research was preserved by Prof. Dendy. Examination of sections of testes of Sphenodon show:—(*a*) The diploid complex is markedly heteromorphic. (*b*) Synapsis is effected by parallel conjugation. (*c*) There is apparently no unpaired chromosome. (*d*) The probable number of diploid chromosomes is twenty-six. (*e*) Reptilian gametogenesis is at present an unexplored field that invites attention for the study of heteromorphic chromosome groups.

Physical Society, October 28.—Sir W. H. Bragg, president, in the chair.—S. **Butterworth**: The use of Anderson's bridge for the measurement of the variations of the capacity and effective resistance of a condenser with frequency. From an analysis of the effect of residuals and earth capacities in Anderson's inductance-capacity bridge, it is shown that if balances are obtained by balancing the bridge with *direct* currents, and making the alternating current adjustments by means of a small series resistance (s') and parallel condenser (C') in the condenser arm, then the changes required in s' and C' to hold the balance at different frequencies are equal and opposite to the variations of the effective (series) resistance and capacity of the condenser with frequency. The assumptions made are that the residual inductances and resistances of the "non-inductive" arms of the bridge are invariable with frequency, and that the resistance of the inductive arm varies as the square of the frequency. S. **Butterworth**: Notes on earth capacity effects in alternating-current bridges. An earth capacity acting at any point in the arm of a bridge may be replaced by two earth-impedances acting at the ends of the arm together with an impedance in series with the arm. By integration the result is extended to small distributed capacities. Two methods are given for the elimination of the error due to the end impedances. Complete elimination can be obtained only by the use of shields connected to the ends of the bridge arm.—F. G. H. **Lewis**: An automatic voltage regulator. Automatic voltage regulation to 0·15 per cent. may be obtained for the operation of a photometric standard lamp on an ordinary supply varying by 10 per cent. by placing the lamp across an unbalanced Wheatstone bridge, of which two opposite arms are composed of tungsten filament lamps. The increase of resistance of these lamps, when the outside voltage rises, causes a shift in the balance such that the voltage across the photometer lamp remains unaltered if the resistances in the arms be properly proportioned. The power taken is about forty times that used in the regulated circuit.—A. S. **Hemmy**: The flow of viscous liquids through slightly conical tubes. A formula is obtained by neglecting terms containing the square of the obliquity. Good agreement with viscosity found experimentally with tubes of differing degrees of conicality is observed.

Mineralogical Society, November 1.—Dr. A. Hutchinson in the chair.—Prof. H. **Hilton**: The determination of the optic axes of a crystal from extinction-angles. The problem of obtaining the positions of the optic axes of a crystal from the extinction-directions on four known faces was discussed, and it was shown from a purely geometrical point of view that the solution is unique. Their position was also found graphically as the intersection in the gnomonic projection of two cubic curves, on which any number of points can be obtained by the use of the ruler only.—W. Campbell **Smith**: Some minerals from Leadhills. Caledonite of pale blue colour and acicular habit has been frequently described in the past as aurichalcite. Examination of all available specimens of so-called aurichalcite from this locality showed that all were caledonite of this acicular habit. The optical properties were found to agree with those of caledonite of the normal habit. It was shown that in caledonite the plane of the optic axes is parallel to (010) and the acute bisectrix is perpendicular to (100), and not as stated in Dana and other text-books. Other remarks referred to gold, linarite, minium, and the rare mineral eosite.—Dr. J. **Drugman**: An example of porphyry-quartz from the Esterel Mountains (France) twinned on the face $(10\bar{1}2)$. This twin-law in quartz has previously been observed only by Q. Sella in 1858, and has been regarded as doubtful. An example of it has been found amongst the porphyritic crystals in the "blue porphyry" of the Esterel Mountains. A distinction is made between the twins of low-temperature rhombohedral α-quartz and those of hexagonal β-quartz (stable at a temperature above 575° C.).—Dr. L. J. **Spencer**: Biographical notices of mineralogists recently deceased, with an index of those previously published in the *Mineralogical Magazine*.

PARIS.

Academy of Sciences, November 2.—M. Georges Lemoine in the chair.—A. **Blondel**: Conditions of starting and of resonance of an alternator feeding a long high-tension line, with or without receiver.—M. **Riquier**: The complete families of integral figures of a system of partial differential equations of the first order, and the application of their properties to the theory of any differential systems.—J. Andrade was elected correspondant for the section of mechanics in succession to the late M. Vallier.—C. E. **Brazier**: The variation of the velocity of ascent of pilot-balloons with altitude. Theoretically, neglecting hydrogen losses and assuming that india-rubber preserves its elasticity, the velocity of ascent should increase regularly with the altitude; actually, the velocity is a maximum near the ground, decreases up to a height between 500 and 1500 metres, and then increases slowly up to 8 or 9 km. Various possible explanations of these facts are discussed.—P. and M. **Richard**: The general problem of aviation. The system of equations utilised by engineers in the design of aeroplanes is simply the analytical expression of the laws of similitude of aerodynamics. Experience in construction has hitherto been the only guide in fresh development. The authors give three equations, partly based on experience and partly on the laws of similitude, which may be used in place of those in current use. Some applications of these equations are indicated.—M. **Gevrey**: Linear partial differential equations admitting a single family of imaginary characteristics.—B. **Gambier**: Conformable correspondence between two surfaces, with conservation of the lines of curvature and of the absolute value of the ratio of the principal radii of curvature.—K. **Ogura**: The extension of a theorem of Liouville to the field of gravitation.—M. **Mercier**: The measurement of the velocity of propagation of electric waves along metallic wires. When a system of electrical oscillations is propagated along two parallel wires, they give rise to a system of nodes and loops. The velocity is known if simultaneous measurements are made of the wave-length and the period of the oscillations. The distance between the nodes can be determined with an accuracy of the order of one in a hundred thousand. The frequencies were measured on absolute value by the method of Abraham and Bloch. The velocities can be determined with an accuracy exceeding 1 in 10,000.—P. **Dejean**: The demagnetising field and paramagnetism.—C. **Raveau**: Is there a resolution of common salt in presence of a non-congruent solution submitted to evaporation?—M. and Mme. A. **Lassieur**: The rapid electro-analysis of brass. The copper is deposited in a sulphuric-nitric acid solution. A minimum amount of nitric acid is employed, and this is reduced to ammonia by electrolysis previous to the determination of the zinc.—J. **Martinet** and A. **Haehl**: The *m-m′*-dinitrodiphenylsulphone.—P. **de Sousa**: Some remarkable rocks from Angola. Nine complete analyses of these rocks are given and compared with two earlier analyses of rocks from the same district published by A. Holmes.—P. **Glangeaud**: The complexity of the volcanic massif of Cantal and the true nature of the Puy Mary. The author has been led to form a different opinion on the constitution of the Puy Mary from that currently held, and regards it as a true volcanic dome afterwards covered up by its products, and later uncovered by erosion.—C **Lepierre**: A new type of mineral water: nitrate waters. Nitrates usually exist in waters in traces only, but an analysis of the water from Ericeira, Portugal, shows that nearly 19 per cent. of the total mineral matter in solution consists of nitrates. Of the various hypotheses as to the possible source of the nitrate, that of the nitrification of organic matter agrees best with the observed facts.—M. **Romieu**: The cytological and micro-chemical study of the red-blood corpuscles in the cœlom of *Terebella lapidaria*.—L. **Boutan**: The nucleus of fine pearls. The qualities of the surface of fine pearls are quite uninfluenced by the presence of a nucleus in the interior.—M. **Bodansky**: The distribution of zinc in the organism of the fish. Two fishes were selected, the catfish, *Ailurichtys marinus*, known to contain unusually large proportions of zinc, and the red snapper, *Lutjanus aya*, containing proportions of zinc normally present in animal tissues. The organs of these were dissected out and the amount of zinc in each determined. In the red snapper the maximum proportion of zinc was found in the spleen (43·5 mgr. per kg.) and liver (55·5 mgr. per kg.), with a minimum (2·3) in the muscles. In the catfish the minimum amount (8·1 mgr. per kg.) was also in the muscles, but the maximum was found in the gills (102·5 mgr. per kg.).—A. **Berthelot** and Mlle. E. **Ossart**: Researches on the micro-organisms producing acetone. Besides the active anaerobic organisms of A. Fernbach capable of utilisation on the industrial scale, there exist in Nature many other micro-organisms, both aerobic and anaerobic, capable of producing small quantities of acetone, and it is possible that some of these may penetrate and develop in the intestinal canal.—C. **Levaditi** and S. **Nicolau**: Immunity in neurotropic ectodermoses.—M. and Mme. G. **Villedieu**: The toxicity of metals for yeasts and moulds. In these experiments sheets of metal instead of the usual metallic salts were employed, the same nutrient solution being used in all cases. Starting with the least toxic, the metals came out in the following order: mercury, copper, zinc, iron, and magnesium, the last-named being the most toxic.—A. **Lumière** and H. **Couturier**: The desensibilisation of anaphylactised animals by means of several antigens. The results of the experiments detailed are not in accord with the view that vaccination by one antigen confers immunity against others. The anaphylaxy is really specific.—Mlle. Marthe **Giraud**, G. **Giraud**, and G. **Barès**: The hæmoclasic crisis due to the penetrating X-rays.

ROME.

Reale Accademia nazionale dei Lincei, June 3.—V. Volterra, vice-president, in the chair.—Papers by fellows:—C. **Somigliana**: Depth of glaciers, ii. A mathematical determination of the form of profile of the section of the glacier in terms of observations of its rate of flow at the surface.—F. **Severi**: Integrals of first species belonging to an algebraic surface, vi.—C. **De Stefani**: Fossil sponges, vii. The localities are the Crocetta group, the Palazzo Doria, and Rio Gea.—B. **Grassi**: Can malaria be transmitted directly by Anopheles? In three experiments a patient suffering from malaria was bitten by Anopheles which were afterwards allowed to attack a healthy subject. In each case they filled themselves and emitted a drop of blood, and it was evident that the conditions were favourable to inoculation, but the individuals who underwent the experiment remained immune.—A. **Stefani**: Physiology of nerves and nerve-centres (to be published later).—G. **Bruni** and E. **Romani**: Mechanical action of certain vulcanising accelerants of rubber. In this paper the authors have developed a general theory of the accelerative action of an important group of organic agents, both sulphurous and non-sulphurous.—Papers communicated through fellows:—J. **Pérès**: "Sur les fonctions permutables" (in French).—M. **De Angelis**: Crystalline forms of trimethylphloretin,

$$C_6H_2O_3(CH_3)_3\cdot CO\cdot CH(CH_3)\cdot C_6H_4OH.$$

—E. **Sereni**: Biochemistry of preparations from the central system of the frog.—An address was presented to Prof. Ernesto Mancini in commemoration of the fortieth anniversary of his nomination to the office of Chancellor of the Academy.

June 5.—Special meeting attended by the King.—The following prizes were awarded:—Royal prize for mathematics to Prof. Guido Fubini, of Turin; Royal prize for social and economic sciences to Prof. Gino Arias, of Genoa. Of the two prizes offered by the Minister of Public Instruction for physics and chemistry, one is awarded to Prof. Eligio Perucca and the other divided between Prof. Giuseppe Crestani and Mario Tenani. Two similar Ministerial prizes for philology are divided between Profs. Carlo Calcaterra, Massimo Lenchantin, De Gubernatis, Alfonso Omodeo, and Augusto Rostagni. The Carpi prize is awarded to Dr. Enrico Carano for his work on the embryology of Asteraceæ; the Sella prize to Dr. Antonio Sellerio, of Palermo; and the prize of the Morelli Institute to Dr. Camillo Ausenda. Prof. G. Vitelli gave an address on the composition of Homeric poems, and congratulatory addresses were exchanged with the British Academy.

June 19.—F. D'Ovidio, president, in the chair.—Papers by fellows:—G. **Castelnuovo**: Abelian functions, iv.: Applications to algebraic series of groups on a curve.—C. **Somigliana**: Depth of glaciers, iii. Determination of the profiles corresponding to expressions for the surface velocity of the second and third degrees as functions of the lateral co-ordinate.—F. **Severi**: Integrals of the first series of an algebraic surface, vii.—L. **De Marchi**: Thermal gradient and vertical acceleration in the atmosphere. In this paper the author investigates the vertical motion of the air as dependent on temperature conditions, condensation of raindrops, and other causes, and gives numerical values for the estimated velocity and acceleration under given assumed conditions. Apart from its meteorological significance, this investigation has an important bearing on another application which is, and has for a long time been, awaiting systematic study. While the vertical velocities of the air in the author's paper fall short of the values that would be necessary to maintain a bird in continuous horizontal gliding flight, they certainly suggest that under different conditions upward air-currents may be set up which are sufficient for the sustentation of gliding birds. Such conditions one would expect to occur in a country where the earth's surface is exposed to the action of tropical sunshine in daytime and is cooled at night by radiation in a cloudless sky. It is much to be hoped that the author's work will pave the way for further study of this interesting question.—C. **De Stefani**: Fossil sponges, viii. The localities under examination are at Crocetta, Casa Bisognaschi, and under the Casa Doria.—Communicated by fellows:—L. **Brusotti**: Small variation of a real algebraic plane curve.—G. De A. **D'Ossat**: Solubility of leucite in agricultural soil. These investigations show that leucite is not only soluble in water, but when mixed with soil it gives rise to reactions capable of liberating potash in considerable quantities—a result of great importance in its application to agriculture, as it is calculated by Washington that in Italy nine billion tons of potash contained in volcanic rocks are capable of being rendered available by this method.

The following papers were received during the vacation:—Papers by fellows:—C. **Somigliana**: Depth of glaciers, iv. (4th order profiles).—O. M. **Corbino**: Effect of magnetic field on heat conduction.—B. **Grassi**: A biological race of Anopheles which do not attack man; a very singular case of anophelism and paludism without malaria. In 1906 Prof. Giacomo Rossi, of the Higher School of Agriculture at Portici, directed attention to Orti di Schito (between Torre Annunziata and Castellamare) as an example of anophelism without malaria. The author on visiting the district found a "truly phenomenal" abundance of both *A. claviger* and *A. maculipennis*, sometimes rising in clouds at sunset and literally swarming in pigsties; on the other hand, malaria had been unknown for years. This result is now explained by the discovery that in this particular district the Anopheles never attack human beings. Observations extending over several visits both by the author and his assistants showed no case of anyone being bitten by the Anopheles, except when almost forced to do so by being previously kept in a state of starvation. On the other hand, the inhabitants of Schito were frequently bitten by Culex. The author suggests that this peculiar biological race of Anopheles acquired their present habits during a period (about 1860–70) when large flocks of cattle were kept in the marshy districts with very few men in charge of them.—Prof. B. **Morpurgo**: Consequences of nephrectomy in Siamese moles.—O. M. **Corbino**: Theory of Thomson effect.—G. **Bruni** and C. **Pelizzola**: Presence of manganese in grey rubber and cause of "tackiness" (*peciosità*). Analysis of various rubbers showed that good examples contained only an average of 0·16 milligram of manganese in 100 grams of rubber. In examples presenting strong uniform tackiness the proportion of manganese was 20 milligrams per 100 grams, while in intermediate cases, where the tackiness was slight and irregular, the proportion was usually from 1 to 3·75 milligrams per 100 grams. It thus appears probable that the decomposition of the rubber is in part due to the action of the manganese as an oxidising agent, this action being cyclic.—The following papers were communicated through fellows:—G. **Abetti**: Determination of longitude by wireless telegraphy.—E. G. **Togliatti**: Varieties of three dimensions and fourth order that are loci of at least infinity-squared lines.—Dr. B. **Peyronel**: *Menispora microspora*, n. sp., one of the Hyphomycetæ with mesoendogenous conidia. A new fungus forming minute spots on the bark of the chestnut, remarkable for the mode of formation of its conidia.—F. **Sibirani**: Bertrand's curves.—A. **Tanturri**: New expression of Bernoulli's numbers.—G. **Abetti**: Comparison between visual and photographic observations of nebulæ. In 1876–79 a number of drawings of nebulæ were made by G. Tempel at Arcetri with an Amici equatorial of 28-cm. aperture and 5·20 metres focal length. The author compares nine of these with photographs made by Pease with the 60-in. reflector of Mount Wilson. The agreement is very marked, thus confirming the accuracy of the drawings, but there appears evidence of relative displacements of the stars and nuclei in the interval between the observations, attributable to proper motions.—G. **Stefanini**: Geology of Cyrenaica, ii.—E. **Perucca**: Measure of differences of contact potential by the Lippmann-Pellat method.—M. **La Rosa**: Conductivity and thermo-electric power in a magnetic field on the electron theory.—G. **Agamennone**: The world's earthquakes in 1916. Taking as starting point H. H. Turner's British Association report, the author tabulates statistics showing how many of the "large" earthquakes were observed at each of the five Italian stations of Rocca di Papa, Moncalieri, Padua, Montecassino, and Valle di Pompei for each month of 1916.—Dr. J. C. **Cortini**: *Tylomyces gummiparus*, n. sp., the prototype of a new genus of hyphomycetes, i. This fungus was found on some specimens of carnation that were attacked by Fusarium, and the author refers it to the family Dematiaceæ, section Phragmosporæ. The paper is illustrated by figures.—C. **Artom**: Cytological data on the tetraploidism of *Artemia salina* from the district of Margherita di Savoia, in Apulia. A development arising from a previous investigation, in which the author found that the Artemias from eighteen different localities were separable into two distinct groups, differing in the size of the nuclei of their intestinal cells.

Books Received.

Fundamental Catalogue of 1846 Stars for the Equinox 1900, from Observations made at the Royal Observatory, Cape of Good Hope, during the years 1912–1916, under the Direction of S. S. Hough. Pp. xxx+38. (London: H.M. Stationery Office.) 10*s.* net.

More Hunting Wasps. By J. H. Fabre. Translated by A. T. de Mattos. Pp. viii+376. (London: Hodder and Stoughton, Ltd.) 8*s.* 6*d.* net.

The Wonder Book of Science. By J. H. Fabre. Pp. 287. (London: Hodder and Stoughton, Ltd.) 8*s.* 6*d.* net.

Fluoreszenz und Phosphoreszenz im Lichte der Neureren Atomtheorie. By P. Pringsheim. Pp. viii+202. (Berlin: J. Springer.) In Germany, 48 marks; in England, 144 marks.

Modern Electrical Theory. By Dr. N. R. Campbell. (Cambridge Physical Series.) Supplementary Chapters. Chapter xv: Series Spectra. Pp. viii+110. (Cambridge: At the University Press.) 10*s.* 6*d.* net.

An Introduction to Psychology. By S. S. Brierley. Pp. viii+152. (London: Methuen and Co., Ltd.) 5*s.* net.

Exploration of Air: Out of the World North of Nigeria. By A. Buchanan. Pp. xxiv+258. (London: J. Murray.) 16*s.* net.

The Practical Chemistry of Coal and its Products. By A. E. Findlay and R. Wigginton. Pp. 144. (London: Benn Bros., Ltd.) 12*s.* 6*d.*

Modern Gasworks Practice. By A. Meade. Second edition, entirely re-written and greatly enlarged. Pp. xii+815. (London: Benn Bros., Ltd.) 55*s.*

Verhandelingen van Dr. P. Zeeman over Magneto-Optische Vershijnselen. Pp. xvi+341+14 plates. (Leiden: E. Ijdo.)

Annales de l'Observatoire Météorologique Physique et Glaciaire du Mont Blanc. Publiées sous la direction de J. Vallot. Tome vii. Pp. vi+240. (Paris: G. Steinheil.)

Diary of Societies.

THURSDAY, NOVEMBER 17.

ROYAL HORTICULTURAL SOCIETY, at 10—6.—International Potato Conference.

ROYAL SOCIETY, at 4.30.—Major P. A. MacMahon and W. P. D. MacMahon: The Design of Repeating Patterns.—Prof. J. W. Nicholson: A Problem in the Theory of Heat Conduction.—Prof. C. H. Lees: The Thermal Stresses in Spherical Shells Concentrically Heated.—R. A. Fisher: The Mathematical Foundations of Theoretical Statistics.—F. P. White: The Diffraction of Plane Electromagnetic Waves by a Perfectly Reflecting Sphere.—Prof. C. V. Raman and G. A. Sutherland: The Whispering Gallery Phenomenon.

LINNEAN SOCIETY OF LONDON, at 5.—Capt. A. W. Hill: Account of an Expedition to the Cameroons and Nigeria in 1921.

LONDON MATHEMATICAL SOCIETY (at Royal Astronomical Society), at 5 (Annual General Meeting).—S. Banach: An Example of an Orthogonal Development whose Sum is Everywhere Different from the Developed Function.—A. C. Dixon: Expressions and Functions Reduced to Zero by the Operator sinh $D-cD$.—H. Hilton: Plane Curves of Degree $2n$ with Tangents having bi-n-point Contact—C. Krishnamachary and M. Bhimasena Rao: A Table of Values of 30 Eulerian Numbers, based on a new method.—L. J. Mordell: The Number of Solutions in Positive Integers of the Equation $yz+zx+xy=n$.—G. Pólya: Sur les séries entières à coefficients entières.—H. J. Priestley: Some Applications of Integral Equations to the Theory of Differential Equations.——W. F. Sheppard: Inverse Correspondence of Differences and Sums.—T. Stuart: The Parametric Solutions and Minimum Numerical Solutions of $x^4+y^4+z^4=u^4+v^4$—R. Vythynathaswamy: Generating Regions of a Quadric in Space of n Dimensions.—B. M. Wilson: Proofs of some Formulæ enunciated by Ramanujan.

ROYAL SOCIETY OF MEDICINE (Dermatology Section), at 5.

ROYAL AERONAUTICAL SOCIETY (at Royal Society of Arts), at 5.30.—Col. F. Searle: Requirements and Difficulties of Air Transport.

INSTITUTION OF MINING AND METALLURGY (at Geological Society), at 5.30.—H. F. Collins: The Igneous Rocks of the Province of Huelva and the Genesis of the Pyritic Orebodies.

INSTITUTION OF ELECTRICAL ENGINEERS, at 6.—E. S. Byng: Telephone Line Work in the United States.

CHEMICAL SOCIETY, at 8.—H. Burton and J. Kenner: The Influence of Nitro-groups on the Reactivity of Substituents in the Benzine Nucleus. Part. V., Heteronucleal Dinitro-derivatives.—F. Challenger and J. F. Wilkinson: Organo-derivatives of Bismuth. Part V., The Stability of Halogen, Cyano-, and Thiocyano-derivatives of Tertiary Aromatic Bismuthines.—F. Challenger and L. R. Ridgway: Organo-derivatives of Bismuth. Part VI., The Preparation and Properties of Tertiary Aromatic Bismuthines and their Interaction with Organic and Inorganic Halogen Compounds.—O. Silberrad: Researches on Sulphuryl Chloride. Part I., Influence of Catalysts: A Convenient Method of Chlorinating Benzine.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE (at London School of Tropical Medicine), at 8.15.—Laboratory Meeting.

FRIDAY, NOVEMBER 18.

ROYAL HORTICULTURAL SOCIETY, at 10.30—1.30.—International Potato Conference.

ASSOCIATION OF ECONOMIC BIOLOGISTS (in Botanical Lecture Theatre, Imperial College of Science and Technology), at 3.—Dr. E. J. Butler and others: Discussion: Meteorological Conditions and Disease.

INSTITUTE OF TRANSPORT (Graduates' and Students' Section) (at Royal Society of Arts), at 5.—J. P. Thomas: The Operation and Development of Urban Electric Railway Services.

ROYAL SOCIETY OF MEDICINE (Otology Section), at 5.

INSTITUTION OF MECHANICAL ENGINEERS, at 6.—Dr. E. H. Salmon: The Machinery of Floating Docks.

JUNIOR INSTITUTION OF ENGINEERS, at 7 (Annual General Meeting).

ROYAL PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN, at 8.—J. D. Johnston: Photography in Relation to the Graphic Arts.

ROYAL SOCIETY OF MEDICINE (Electro-therapeutics Section), at 8.30.—Dr. F. Daels: (1) Histological Pictures of the Curing of Uterine Baso-cellular Epithelioma. (2) The Use of Drainage Tubes in the Irradiation of the Pelvis with Radium.—Dr. G. Fildes: Further Remarks on the Potter-Bucky Diaphragm.

SATURDAY, NOVEMBER 19.

BRITISH MYCOLOGICAL SOCIETY (in Botany Lecture Theatre, University College), at 11.—Dr. G. R. Bisby: The Use of Fungicides on Potatoes in North America.—Dr. W. Brown: The Growth of Fungi in Cultures.—W. N. Edwards: An Eocene Microthyriaceous Fungus from Mull, Scotland.—Dame H. C. I. Gwynne-Vaughan: The Grouping of the Simpler Ascomycetes.—Dr. A. S. Horne: Fungi from a Diseased Hevea Stem.

PHYSIOLOGICAL SOCIETY (at St. Thomas's Hospital), at 4.—J. N. Langley: Sweat Secretion.—W. E. L. Brown: An Independent Determination of the Value of "*n*" in Hill's Equation.—T. Lewis, C. C. Iliescu, and A. M. Wedd: A Paradoxical Effect of Vagal Stimulation upon the Auricles.—D. Noel Paton: The Significance of Digestion Leucocytosis.—F. R. Fraser: The Reaction of Human Blood in Cardiac and Renal Disorders by the Colorimetric Method.—A. V. Hill: The Maximum Work of Human Muscles.—A. V. Hill and J. C. Bramwell: The Velocity of the Pulse Wave.—Miss D. V. Atkinson: The Osmotic Pressure of Hæmoglobin in Blood.—E. C. Dodds and T. I. Bennett: Some New Observations on Diabetes Mellitus.—J. H. Burn: The Relation of Nerve Supply to Sweating produced by Pilocarpine.—J. Mellanby: Experimental Dyspnœa.

MONDAY, NOVEMBER 21.

INSTITUTION OF ELECTRICAL ENGINEERS (Informal Meeting), at 7.—A. J. Hainsworth and others: Hydro-electric Power.

INSTITUTION OF MECHANICAL ENGINEERS (Graduates' Meeting), at 7.—J. Harrison: Some Thoughts on Motor-cycle Engine Design.

ARISTOTELIAN SOCIETY (at University of London Club), at 8.—Dr. F. W. Thomas: An Indian Doctrine of Perception and Error.

ROYAL INSTITUTE OF BRITISH ARCHITECTS, at 8.—G. H. Widdows: School Design.

ROYAL GEOGRAPHICAL SOCIETY (at Æolian Hall), at 8.30.—J. M. Wordie: Jan Mayen: An Old Arctic Volcano.

TUESDAY, NOVEMBER 22.

ROYAL SOCIETY OF MEDICINE (Medicine Section) (at St. Thomas's Hospital), at 4.45.

ZOOLOGICAL SOCIETY, at 5.30.—Dr. A. Smith Woodward: Exhibition of a Fossil Human Skull from Broken Hill, North Rhodesia.—Dr. C. F. Sonntag: Contributions to the Visceral Anatomy and Myology of the Marsupialia.—C. W. Hobley: The Fauna of East Africa and its Future.—H. Matsumoto: *Megalohyrax*